In the claims:

1. A method of updating covariance of a signal in a sequential manner

   comprising the steps of:

   scaling the covariance of the signals by a scaling factor;

   updating the scaling factor based on the signal to be recognized;

   updating the scaling matrix each time new data of the signal is available; and

   calculating a new scaling factor by adding a correction item to a previous scaling

   factor.

2. The method of claim 1 wherein the signal comprises a speech signal.

3. The method of claim 1 wherein the scaling factor is a scaling matrix and

   could be any matrix that ensures the scaled matrix is a valid covariance.

4. The method of claim 1 wherein the new available data of the signals could be

   based on any length.

5. The method of claim 1 wherein the new available data of the signals could be

   a frame.

6. The method of claim 1 wherein the new available data of the signals could be

   an utterance.

7. The method of claim 1 wherein the new available data of the signals could be

   a fixed time period.

8. The method of claim 1 wherein the new available data could be every 10

   minutes of a speech signal.

9. The correction of claim 1 wherein the correction is the product of any

   sequence whose limit is zero, whose summation is infinity and whose square

summation is not infinity and a summation of quantities weighted by a

probability.